

19_euclid.8 (TMNNnnsNDE- DRzNBL9ZKVYy7ypMQfaETcjTY)

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Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid.8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_3) \wedge (m2_subset_1 \ np_3 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_3 \ k5_numbers) \wedge (m1_subset_1 \ np_3 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 \ X1 \ X0) \Rightarrow (\forall X2. (m2_finseq_2 \ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7_ordinal1 \ X0) \wedge ((m1_subset_1 \\ & \ X1 \ (k1_euclid \ X0)) \wedge (m1_subset_1 \ X2 \ (k1_euclid \ X0)))) \Rightarrow (k8_euclid \\ & \ X0 \ X1 \ X2 = k45_valued_1 \ X1 \ X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7_ordinal1 \ X0) \wedge ((m1_subset_1 \\ & \ X1 \ (k1_euclid \ X0)) \wedge (m1_subset_1 \ X2 \ (k1_euclid \ X0)))) \Rightarrow (k7_euclid \\ & \ X0 \ X1 \ X2 = k1_valued_1 \ X1 \ X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(m1_subset_1\ X1\ (k1_euclid\ X0)))\Rightarrow(k6_euclid\ X0\ X1 = k30_valued_1\ X1) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(m2_finseq_2\ X0\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(\forall X1. \\ (m2_finseq_2\ X1\ k1_numbers\ (k1_euclid\ np_3))\Rightarrow(k8_euclid\ np_3 \\ X0\ X1 = k1_euclid_8\ (k10_binop_2\ (k1_seq_1\ X0\ np_1)\ (k1_seq_1\ X1 \\ np_1))\ (k10_binop_2\ (k1_seq_1\ X0\ np_2)\ (k1_seq_1\ X1\ np_2))\ (\\ k10_binop_2\ (k1_seq_1\ X0\ np_3)\ (k1_seq_1\ X1\ np_3)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2\ X1\ X0)\Rightarrow(\forall X2.(m2_finseq_2\ X2\ X0\ X1)\Rightarrow(m2_finseq_1\ X2\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Rightarrow((v1_funct_1\ X1)\wedge((v1_finseq_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(m1_subset_1\ X1\ (k1_euclid\ X0)))\Rightarrow(m2_finseq_2\ (k6_euclid\ X0\ X1)\ k1_numbers\ (k1_euclid\ X0)) \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_valued_0\ X0)))\Rightarrow \\ (\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_valued_0\ X1)))\Rightarrow(k45_valued_1\ X0\ X1 = k1_valued_1\ X0\ (k30_valued_1\ X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v3_valued_0\ X0))\Rightarrow((v1_relat_1\ X0)\wedge(v1_valued_0\ X0)) \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k1_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k1_numbers (k1_euclid np_3)) \Rightarrow (k7_euclid np_3 \\ & X0 (k6_euclid np_3 X1) = k1_euclid_8 (k10_binop_2 (k1_seq_1 X0 \\ & np_1) (k1_seq_1 X1 np_1)) (k10_binop_2 (k1_seq_1 X0 np_2) (k1_seq_1 \\ & X1 np_2)) (k10_binop_2 (k1_seq_1 X0 np_3) (k1_seq_1 X1 np_3)))) \end{aligned}$$